



Review of The Advisory Committee (ACIP) on Immunization Practices Recommendations to Prevent Perinatal Hepatitis B (PHB)

Kim Moore, RN, MSN, PHN

Los Angeles County Immunization Program
Perinatal Hepatitis B Prevention Unit (PHBPU)



Disclosure

The speaker has disclosed that there are NO financial interests related to the content of this presentation (see evaluation form)

Objectives

At the end of this activity, participants will be able to describe:

- Four hepatitis B prevention laws
- Two roles of the LAC PHB Prevention Program
- Risk of liver cancer in the foreign born Asian population
- ACIP recommendations to prevent PHB
- Hepatitis B vaccine universal vaccination (HBUV)
- Hepatitis B Vaccine (HBV) barriers



Reporting

Who is Responsible?

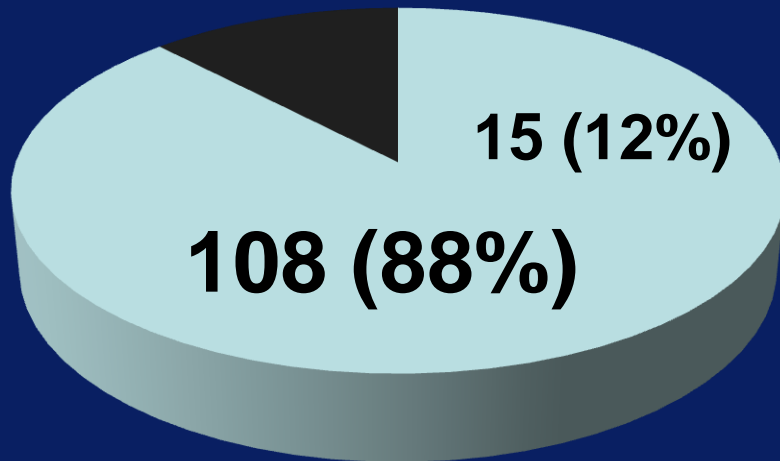
- A. Health Care Providers
- B. Laboratories
- C. Hospitals



CHSC 120250 & Title 17, California Code of Regulations (CCR): Report Positive Hepatitis B Surface Antigen (HBsAg)

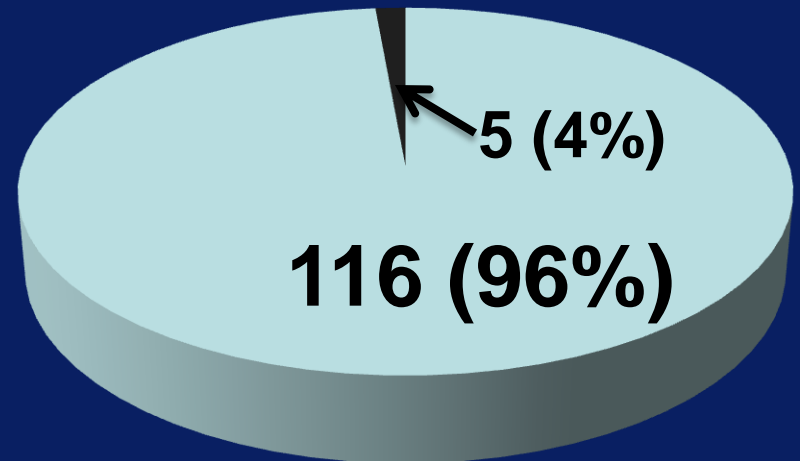
Reported
Not Reported

Visit 1



n = 123

Visit 2



n = 121



CCR, Title 17, Section 2505: Laboratory Reporting of Hepatitis B

- Effective July 2011, laboratories must:
 - Report to public health within 1 working day from the time the healthcare provider or authorized person is notified of diagnosis
 - Specify gender





Background



Perinatal Hepatitis B Prevention Unit (PHBPU)

- Case Management
- Consultation/Education
- HBUV Promotion
- Quality Assurance Reviews
- Laboratory Surveys & Audits



2010 PHBPU Crude Data

Hepatitis B Surface Antigen (HBsAg)(+) Mothers	650
Infants Born to HBsAg+ Mothers	671
HBsAg+ Infants	2
Incidence of Exposure^a LAC	5.6
Maternal Age at Diagnosis	
Mean	31.9 years
Range	17-44 years
Infant Age at Diagnosis	
Mean	12 months
Range	11-13 months

^a Number of infants born to HBsAg positive mothers per 1000 live births in 2010



Hepatitis B Virus (HB)

- Silent, but deadly!
- 50–100 times more infectious than HIV
- Causes chronic hepatitis
 - 15-25% develop liver disease¹
 - liver cirrhosis, failure, cancer
 - Third leading cause of cancer deaths in the world
 - Kidney disease²

1. [CDC.gov/HBV/PDFs/HepBGeneralFactSheet.pdf](https://www.cdc.gov/HBV/PDFs/HepBGeneralFactSheet.pdf)

2. Bhimman, R et al. *AM J. Nephrol.* 2004; 24:198-211



Chronic HB Case Definition 2011



Clinical Evidence



Laboratory Criteria (1)



Laboratory Criteria (2)



Classification

Clinical Evidence



- No symptoms
- Liver Disease
- Cirrhosis
- Liver Cancer



Laboratory Criteria (1)

Negative IgM antibodies to hepatitis B core antigen (IgM anti-HBc)

+

Positive on one of the following tests:

1. HBsAg
2. Hepatitis Be Antigen (HBeAg)
3. Hepatitis B virus (HBV) DNA



Laboratory Criteria (2)



Positive at least 2 times, 6 months apart on any combination of the following tests:

1. HBsAg
2. HBeAg
3. HBV DNA



Case Classification



Confirmed

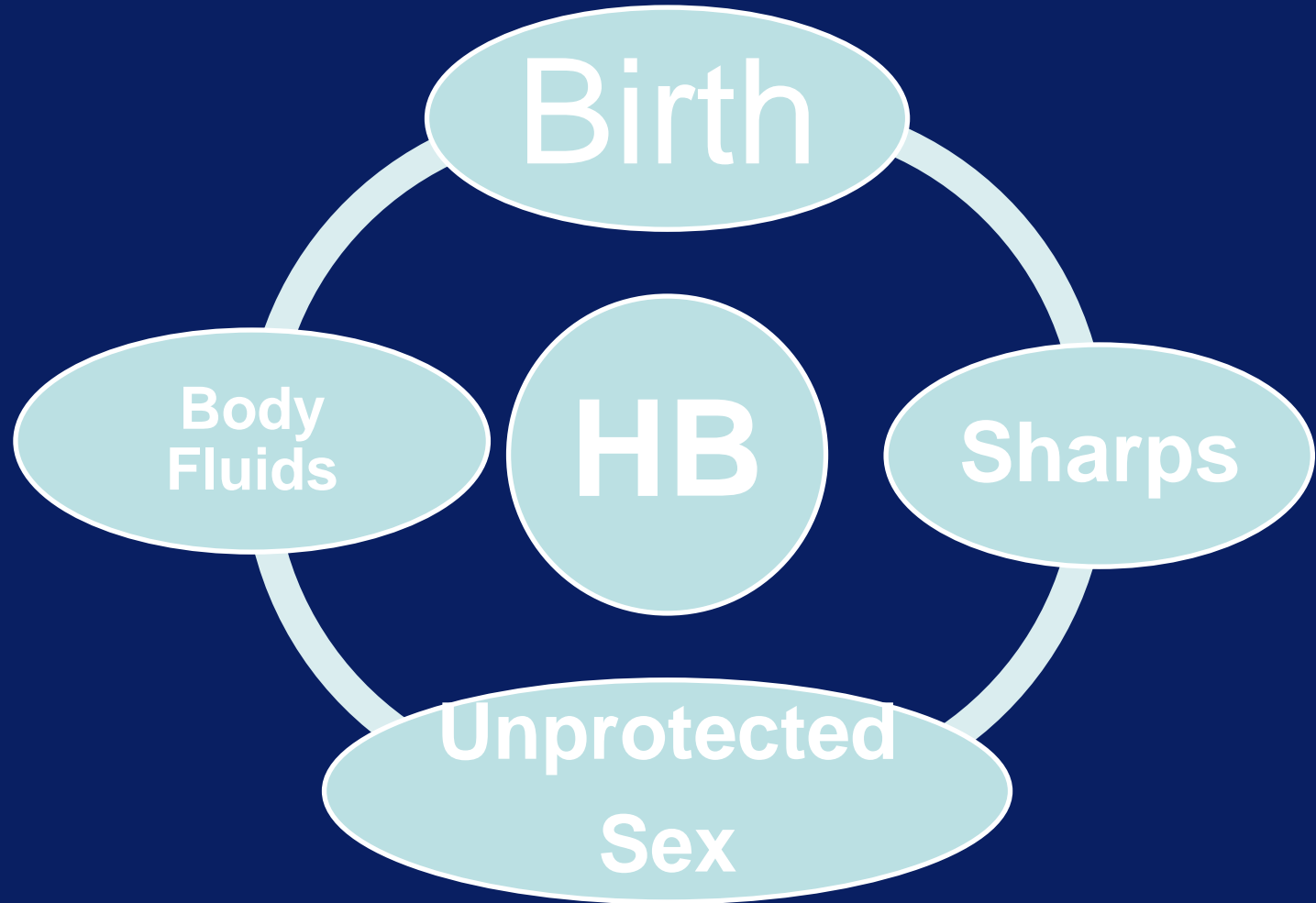
Meets either laboratory criteria

Probable-Positive Result x 1

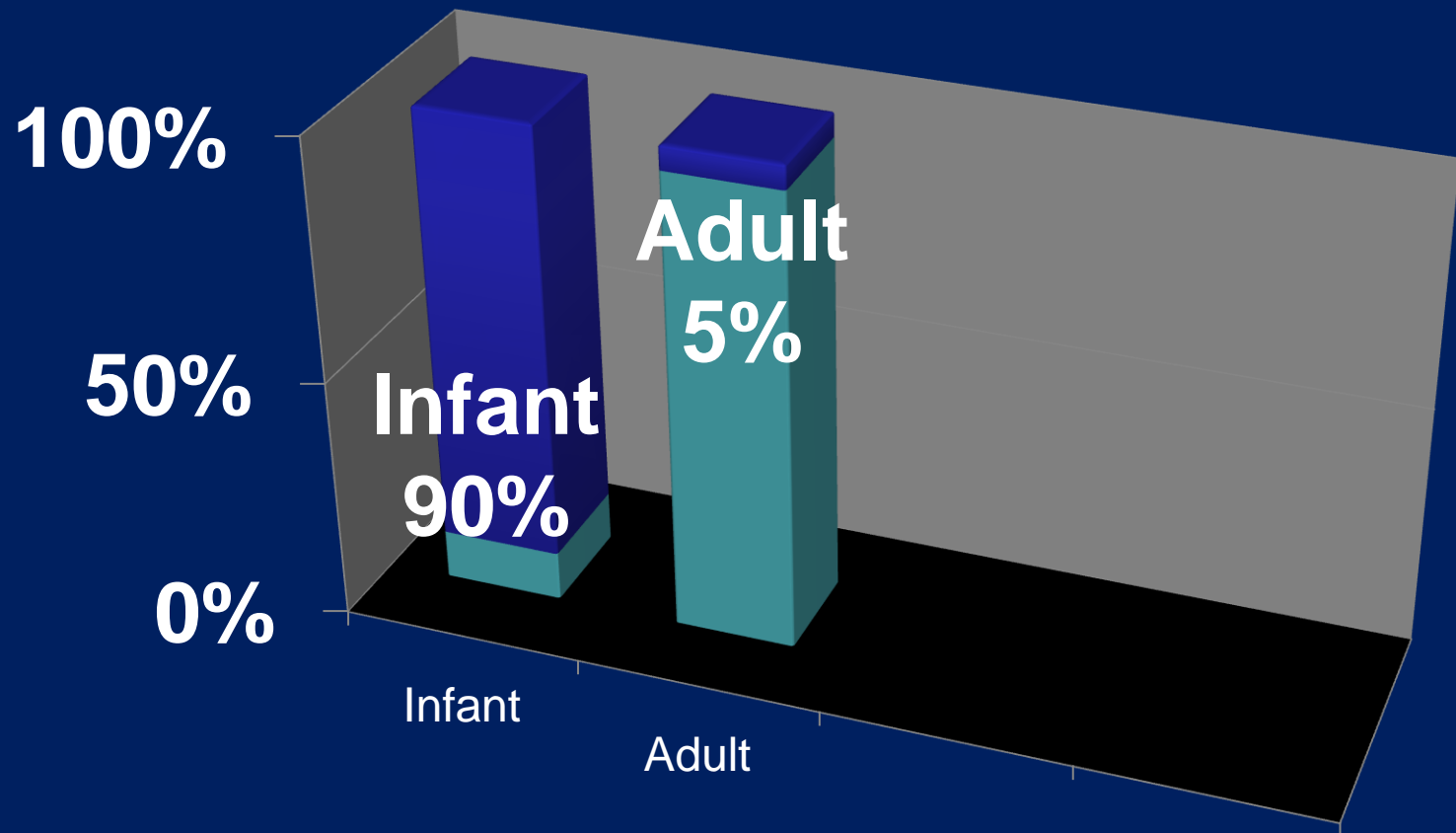
- HBsAg
- HBV DNA
- HBeAg
- Does not meet the case definition for acute hepatitis B



HB Transmission



Risk of Chronic HB



Healthcare-Associated HB Outbreaks in California

Setting	Year	Persons Notified for Screening	Outbreak-Associated Infections	Known or suspected mode of transmission
Skilled Nursing Facility	2008	143	9	Contaminated podiatry equipment
Assisted living facility	2010	28	3	Blood glucose monitoring
	2011	14	2	
Pain remediation clinic	2010	2293	HB:1 HC:1	Syringe reuse contaminating medication vials
Total		2478	16	

- <http://www.cdc.gov/hepatitis/Statistics/HealthcareOutbreakTable.htm>

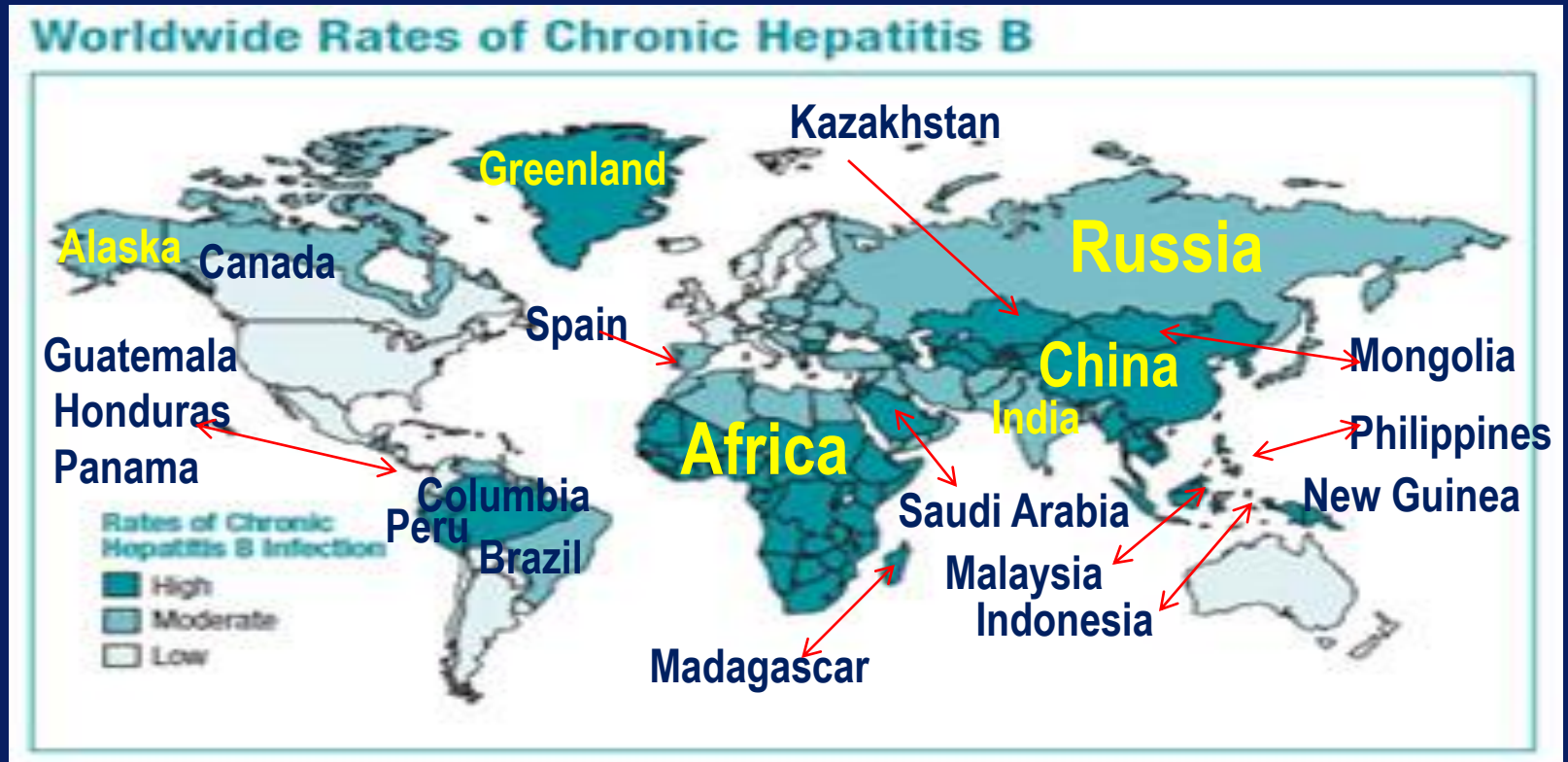


HB Disease Burden in the U.S

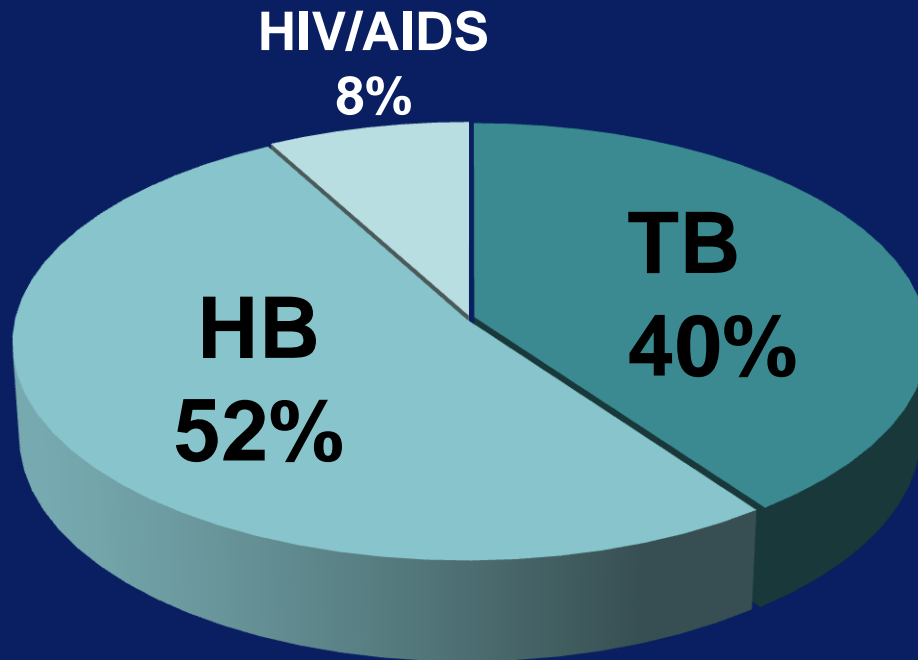
New Infections	40,000/year
Current Carriers	800,000-1.4 million
Deaths	3,000/year



HB Endemicity



Deaths in China



Infection	Deaths
HB	263,000-300,000
TB	200,000
HIV/AIDS	39,000

1 Liu J, Fan D. Hepatitis B in China. The Lancet. 2007;369(9573):1582

2 MMWR 2007; 56(18):441

3 WHO report 2008, Global TB Control. Available at http://www.who.int/tb/publications/global_report/2008/pdf/annex_3.pdf

4 WHO report 2008. Available at www.who.int/globalatlas/predefinedreports/EFS2008/full/EFS2008_CN.pdf



Chronic HB Infection: A Silent Killer Among Asians & Pacific Islanders (APIs)

- < 5% of United States population
 - > 50% have chronic HB
 - 2/3 are unaware of diagnosis
- 1 in 12 foreign born are infected
 - Compared with 1:1000 Caucasians
- Highest incidence of HB related liver cancer
 - Death rate is 7 times the Caucasian rate



<http://www.cdc.gov/hepatitis/Populations/api.htm>



Barriers to Hepatitis B Screenings

- **Knowledge:** Disease misperceptions
- **Cultural Stigma:** Fear of the positive Hepatitis B
- **Language:** Avoid or delay visits to healthcare providers due to limited English
- **System-level:** Lack of health insurance & discomfort with the western medical system



There is A Global Campaign!

The 63rd World Health Assembly resolution passed to cover HB:

- Testing
- Treatment
- Education
- Advocacy
- Vaccinations
- Research & support to help countries formulate their own national responses
- Effective May 2010



Hepatitis B Vaccine (HBV) Infant Schedule

Dose	Usual Age	Minimum Interval
1	Birth	
2	1-2 months	4 weeks
3	6 months	8 weeks



Vaccine Information Statement (VIS)

■ Standardized Objective Information

- Disease
- Who Should/Should Not Receive
- Vaccine Safety
- Adverse Reactions



VIS Federal Law: National Childhood Vaccine Injury Act of 1986

- Required Prior to Vaccination
- Private & Public
- Never Alter



Documenting Vaccines

- ✓Vaccine administration date
- ✓Lot number & manufacturer
- ✓Title & signature or initials of vaccinator
- ✓Anatomic site of administration
- ✓Provider's address where the record is kept
- ✓VIS publication date
- ✓Date VIS is given to the patient



Advisory Committee on Immunization Practices (ACIP) Recommendations

- 1st dose of HBV
 - Before hospital discharge
 - Referred to as universal vaccination
 - Infants of HBsAg (-) women
 - All medically stable newborns
 - Weigh \geq 2,000 grams (4.4 lbs)



ACIP Recommendations for Preterm Infants

- 1st dose of HBV
 - Receive 1 month after birth or at hospital discharge
 - Infants of HBsAg (-) women
 - Weigh <2,000 grams (4.4 lbs)



HBUV Policy

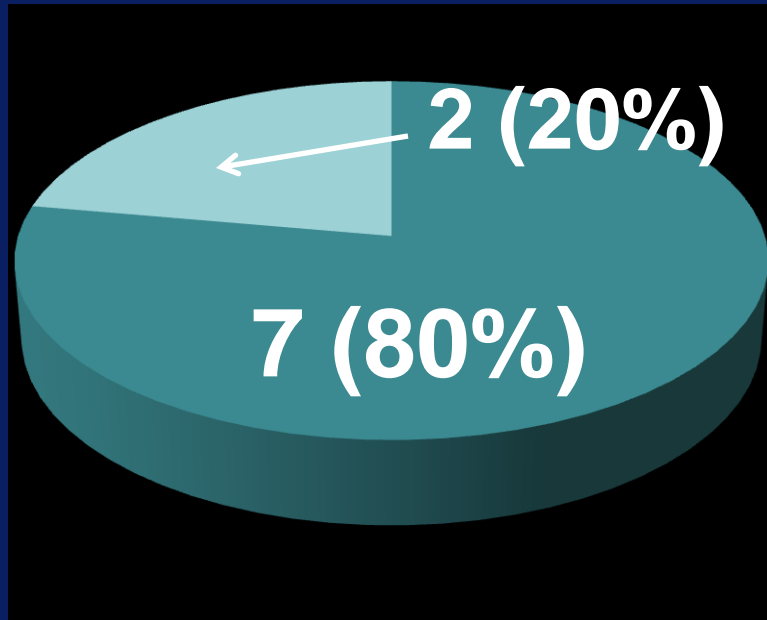


HBUV Policy



No HBUV Policy

Visit 1



n = 9 hospitals

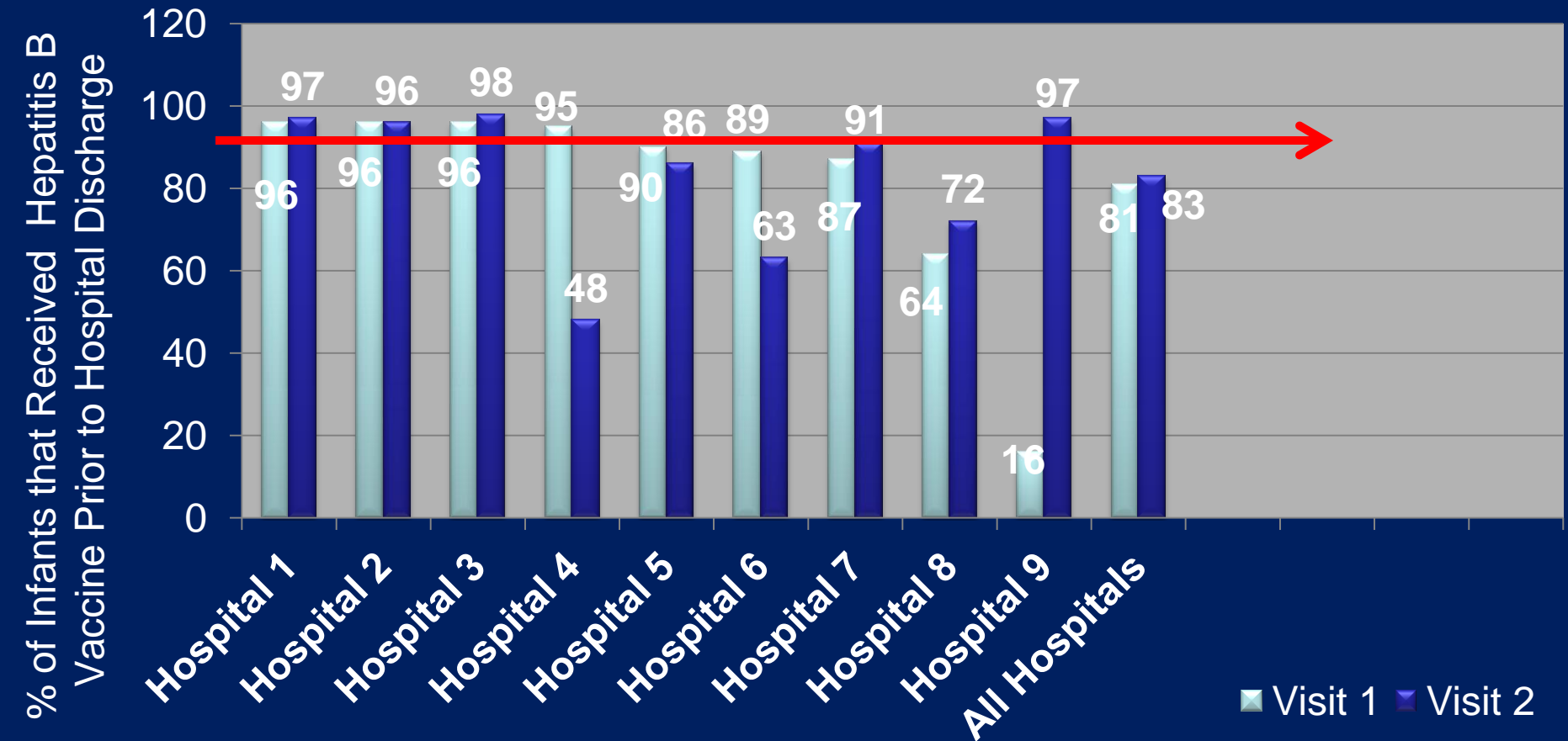
Visit 2



n = 9 hospitals



Hepatitis B Vaccination Rates



90% - CDC Target Vaccination Rate



ACIP Recommendations: Infants Born to HBsAg+ Women

- Within 12 hours of birth administer:
 - HBIG (0.5ml, IM)
 - Single-antigen HBV
 - This initial HBV does not count as part of the vaccine series for premature infants weighing <2,000 grams
 - Premature infants weighing <2,000 grams will need 3 additional doses starting at 1-2 months of age



ACIP Recommendations: Infants Born to Unknown Women

- Within 12 hours of birth administer:
 - ✓ Single-antigen HBV
- Drawn mother's HBsAg as soon as possible
- Record the date & time of HBV administration on infant's medication administration record & immunization record
- If the mother is found to be HBsAg positive:
 - ✓ Administer HBIG to the infant within 7 days of birth
 - ✓ Notify the infant's pediatric health care provider (HCP) to follow up
 - ✓ Alert the infant's pediatric HCP if infant is discharged before mother's HBsAg test result is available.



ACIP Recommendations: Premature Infants Born to Unknown Women

- Within 12 hours of birth administer:
 - HBIG (0.5ml, IM)
 - Single-antigen HBV
 - The initial HBV does not count as part of the vaccine series for premature infants weighing <2,000 grams
 - Premature infants weighing <2,000 grams will need 3 additional doses starting at 1-2 months of age



Why Immunize Prior to Hospital Discharge?

- Multiple HBsAg errors
 - ✓ Screening
 - ✓ Reporting
 - ✓ Diagnosing
- Hospitals are a safety net



California Health & Safety Codes (CHSCs) 125080-125085: Screen All Pregnant Women For HBsAg

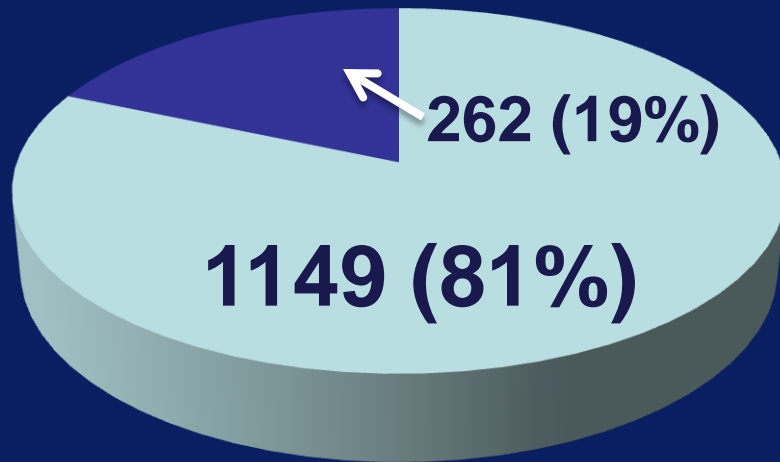


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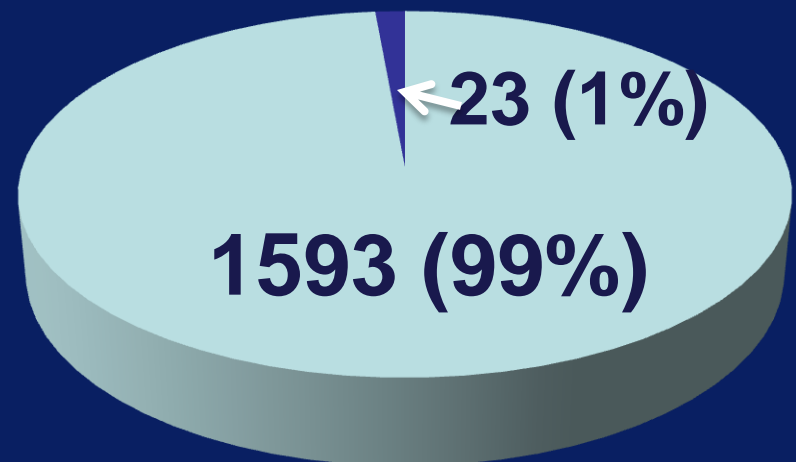
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Visit 1



n = 1411

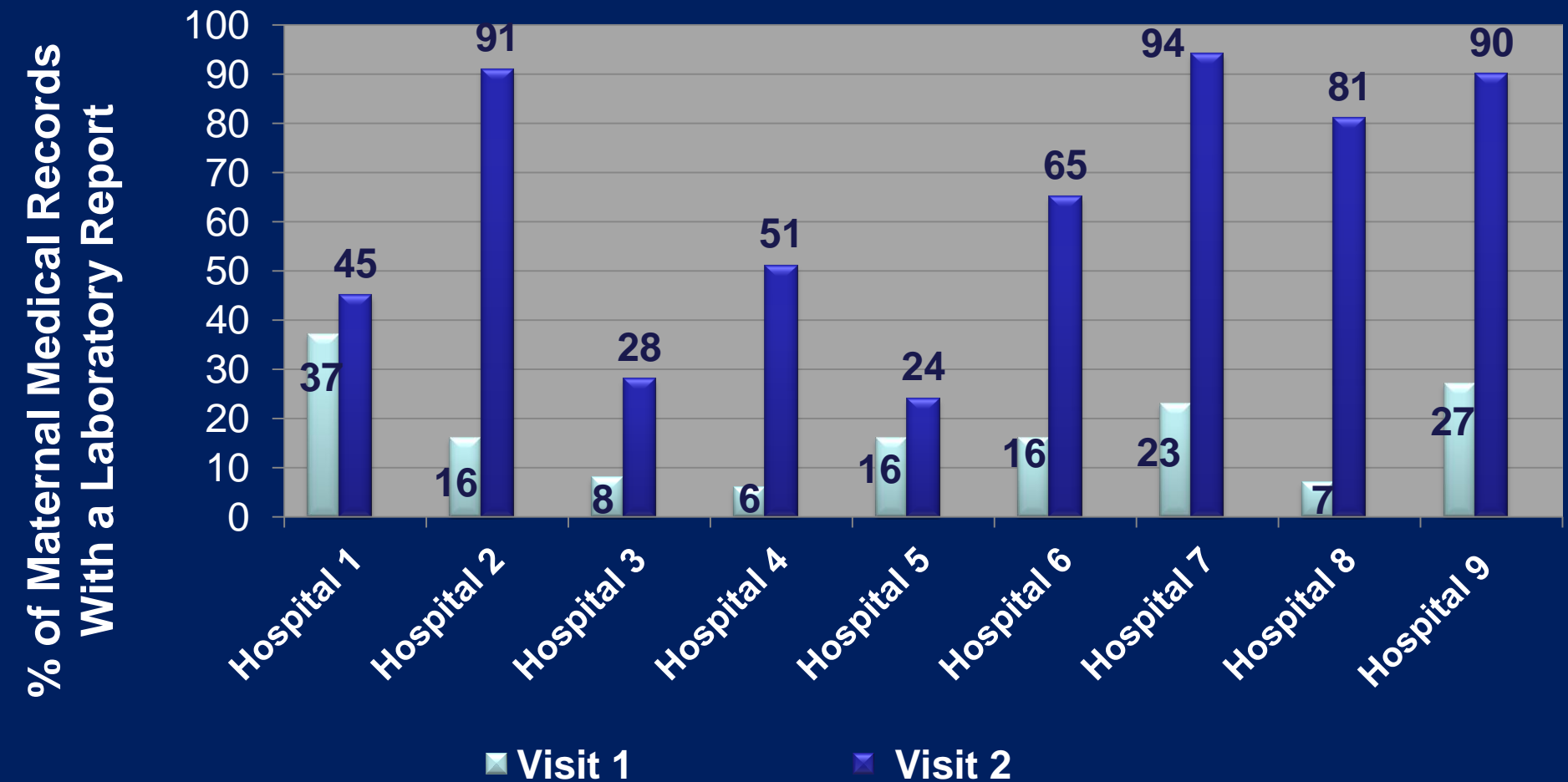
Visit 2



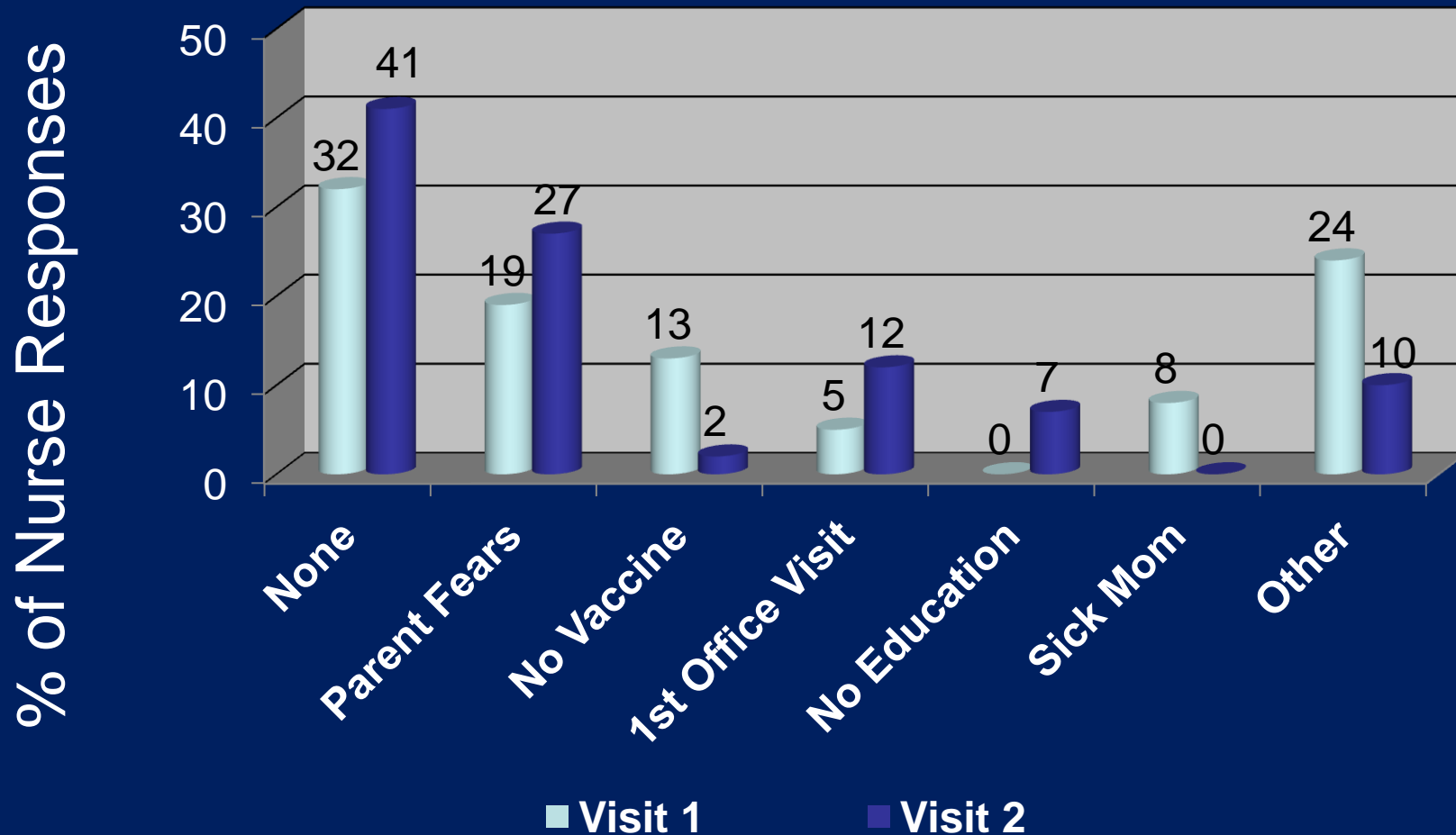
n = 1616



HBsAg Lab Reports (n=3051) By Visit



Birth Dose Barriers (n= 65 Nurses)



Educate:

California Health and Safety Code Section 125090(e)

Mandates healthcare providers engaged in the labor, delivery or post-partum care of the woman ensure the woman receives information & counseling as appropriate to explain the results & implications for the mother's & infant's health, including any follow-up testing and care that are indicated.



ACIP Education Recommendation

- Mothers may breastfeed without delay
 - HBIG & HBV administration should eliminate risk
- Complete the full HBV series on schedule
- Infant will need a HBsAg test & an antibody to HBsAg (anti-HBs) test after vaccine series completion at age 9-18 months to ensure the effectiveness of the vaccine
- Modes of hepatitis B virus transmission
- Vaccinate susceptible household, sexual & needle-sharing contacts
- Medical evaluation for mother for chronic hepatitis B, including an assessment of whether she is eligible for antiviral treatment.



Case Scenario 1

A 33 year-old woman whose HBsAg is unknown delivered a pre-term baby (less than 2000 grams) at your hospital. To prevent PHB transmission, how would you vaccinate the baby?

1. Give 1st dose of HBV within 12 hrs of birth.
2. Give 1st dose of HBV + HBIG within 12 hrs of birth.
3. Give 1st dose of HBV + HBIG on the day the infant is discharged.



Case Scenario 1

Answer

2. Give 1st doses of HBV + HBIG within 12 hrs of birth.

Case Scenario 2

Which of the following is **INAPPROPRIATE** education to provide to HBsAg positive mothers?

1. Preterm infants (< 2000 grams) will require 4 does of hepatitis B vaccine, since the first dose is not counted as part of the series.
2. Infants should complete the full series (3-4 doses) of hepatitis B vaccine to ensure protection against hepatitis B.
3. Infants weighing less than 4 pounds (<2000 grams) should wait until discharge to receive hepatitis B vaccine
4. Post-vaccination serology (HBsAg & an antibody to HBsAg [anti-HBs]) testing should be done after completion of the vaccine series at 9-18 months of age to ensure the effectiveness of the vaccine.
5. Susceptible household, sexual & needle-sharing contacts of mother will need vaccination.
6. Mother will need a medical evaluation for chronic hepatitis B, that includes an assessment of whether she is eligible for antiviral treatment.

Case Scenario 2

Answer

3. Infants weighing less than 4 pounds (<2000 grams) should wait until discharge to receive hepatitis B vaccine

Conclusion

- Test
- Report
- Treat
- Educate



Slide Presentation

Available at Immunization Program
Perinatal Hepatitis B

<http://lapublichealth.org/ip/perinatalhepB/index.htm>



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Questions



Contact Information

Perinatal Hepatitis B Prevention Unit
Department of Public Health Immunization
Program

3530 Wilshire Blvd., Suite 700

Los Angeles, CA 90010

Phone: (213) 351-7400

Fax: (213) 351-2781

<http://publichealth.lacounty.gov/ip/perinatalhepB/index.htm>

